

REMARKS

Claims 1-37 are pending. By this Amendment claims 1, 19, 22-23 and 36-37 are amended.

Specification Objections

The specification stands objected to due to the absence of headings describing the various sections of the specification. By this Amendment, the specification is amended to include headings. It is therefore respectfully requested that this objection be withdrawn.

Claim Rejections – 35 U.S.C. 112, second paragraph

Claims 19, 22, 23 and 36 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which application regards as the invention. These rejections are respectfully traversed.

Claim 19 stands rejected due to the phrase “the prior knowledge” lacking antecedent basis. By this Amendment, the article “the” has been deleted from before prior knowledge. It is therefore respectfully requested that this rejection be withdrawn.

Claim 22 stands rejected due to the phrase “the posterior expectation” lacking antecedent basis. By this Amendment, the claim has been amended to provide antecedent basis for “the posterior expectation.” It is therefore respectfully requested that this rejection be withdrawn.

Claim 23 stands rejected due to the phrase “the posterior covariance” lacking antecedent basis. By this Amendment, the claim has been amended to provide antecedent basis for “the posterior covariance.” It is therefore respectfully requested that this rejection be withdrawn.

Claim 36 stands rejected due to the phrase “claimed in anyone of claim 1” being vague and having a grammatical error. By this Amendment, the phrase “anyone of” has been deleted in order to clarify the scope of the claim. It is therefore respectfully requested that this rejection be withdrawn.

Notice – 35 U.S.C. § 112, sixth paragraph

The Office Action states that in order for the “means for” language of claim 37 to receive a claim interpretation under 35 U.S.C. § 112, sixth paragraph, Applicants must 1) show why the claim language properly invokes 35 U.S.C. § 112, sixth paragraph; 2) identify the function; 3) identify the corresponding structure; and 4) amend the specification, if necessary, to explicitly state what structure corresponds to the recited function with reference to the claimed terms and phrases.

The language invokes 35 U.S.C. § 112, sixth paragraph because it uses the language “means for,” lists a function, and the claim does not recite sufficient structure to perform the function. See MPEP § 2181. The functions are as recited in the claims, “forming a difference between first and second measured data representing the system in first and second states, respectively” and “inverting the difference in accordance with a parameterised model of the physical system to obtain changes in the parameters of the model.” The corresponding structure is a computer or computer processor performing the algorithms disclosed in the specification as performing the functions. Amendment to the specification is unnecessary as the algorithms in the specification are clearly disclosed as performing the claimed functions and it is stated that the algorithms can be performed by a computer.

Claim Rejections – 35 U.S.C. § 101

Claims 1-32, 35 and 37 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. These rejections are respectfully traversed.

The Office Action alleges that claims 1-32 do not meet the criteria for a statutory process because the claims are determined to be a method for processing seismic data that converts one set of numbers into another set of numbers and therefore does not manipulate appropriate subject matter. Independent claim 1 has therefore been amended as suggested in the Office Action to recite “first and second measurements” of seismic data. It is therefore respectfully requested that this rejection be withdrawn.

With regard to claims 2-32 depending from claim 1, it is respectfully submitted that the claims are allowable because the underlying base claim is allowable. It is therefore respectfully requested that the rejections of these claims be withdrawn.

The Office Action alleges that claim 37 could be interpreted as computer executable software code or a program per se and is therefore non-statutory subject matter. Claim 37 has therefore been amended to recite that the method includes computer-implemented means that perform the stated functions. The claim therefore defines a statutory process because it is tied to a particular machine. It is therefore respectfully requested that this rejection be withdrawn.

The Office Action alleges that claim 35 does not meet the criteria for a statutory process because the transmission of a program” of claim 35 having software for processing seismic data representing a physical system does not manipulate appropriate subject matter. As noted above, claim 1 has been amended to define a statutory process as suggested in the Office Action. It is

therefore respectfully submitted that claim 35, which incorporates claim 1, also defines a statutory process. It is therefore respectfully requested that the rejection be withdrawn.

Claim Objections

Claims 33 and 34 stand objected to as being dependent upon rejected base claim 1. Applicants thank the Examiner for the indication of allowable subject matter. Applicants believe that claim 1 is now allowable, so it is respectfully requested that this objection be withdrawn.

Allowed Claims

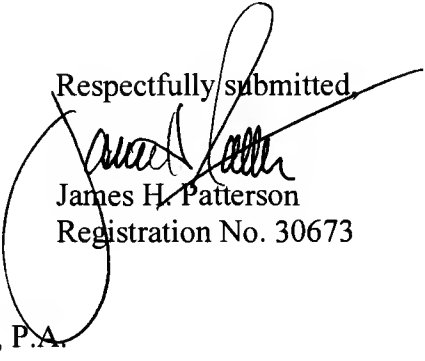
Claims 1-37 are deemed allowable over the prior art of record. Applicants thank the examiner for the indication of allowable subject matter.

Conclusion

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,

  
James H. Patterson  
Registration No. 30673

Customer No. 24113  
Patterson Thunte Christensen Pedersen, P.A.  
4800 IDS Center  
80 South 8th Street  
Minneapolis, Minnesota 55402-2100  
Telephone: 612.349.5741